



**Accelerated
Bridge
Program**
VTRANS



**St Johnsbury BF 7000(20)
Bridge 6 on VT Route 2B
over the Lamoille Valley Rail Trail**

PROJECT LOCATION



Meeting Agenda

- Project Team
- Existing Bridge Issues
- Proposed Bridge Design Considerations
- Bridge Construction & Schedule
- Detours for 2B and LVRT
- Communications About Project
- Questions and Answers

Project Team

- Wendy Pelletier, VTrans Project Manager
- Jay Strong, VTrans Resident Engineer
- John Byatt, Project Design Consultant
- Francine Perkins, Public Outreach Coordinator
- JP Sicard, Contractor

Existing Bridge

- The structure is owned by the State
- Existing bridge is a three-span steel beam w/ concrete deck
- The bridge is 81 years old
- Structurally Deficient
- Deck, steel girders and substructures in poor condition



Looking west over bridge



Pier deterioration



Rust and leakage under deck



Undermining of west abutment



Temporary repair at west abutment



Design Considerations

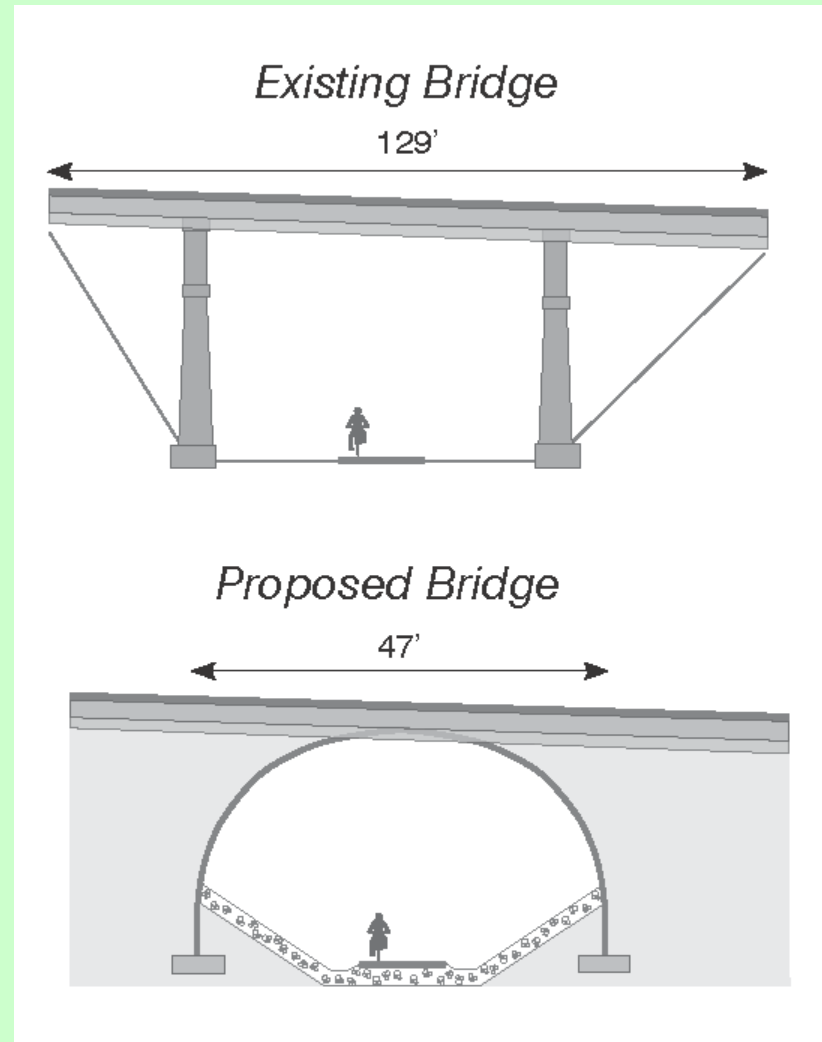
- Historically sensitive railing and wall pattern
- Minimize disruption
- Eliminate groundwater issues at abutment
- Maintain RR clearances as required by trail agreement
- Maintain existing water line

Innovative Construction Techniques

- Accelerated Bridge Construction
- Precast Bridge Elements
 - More advance time needed for approval and fabrication
- Soil Settlement Monitors
 - Bridge and wall types can accommodate settlement
 - Will monitor settlement to evaluate

Bridge Design

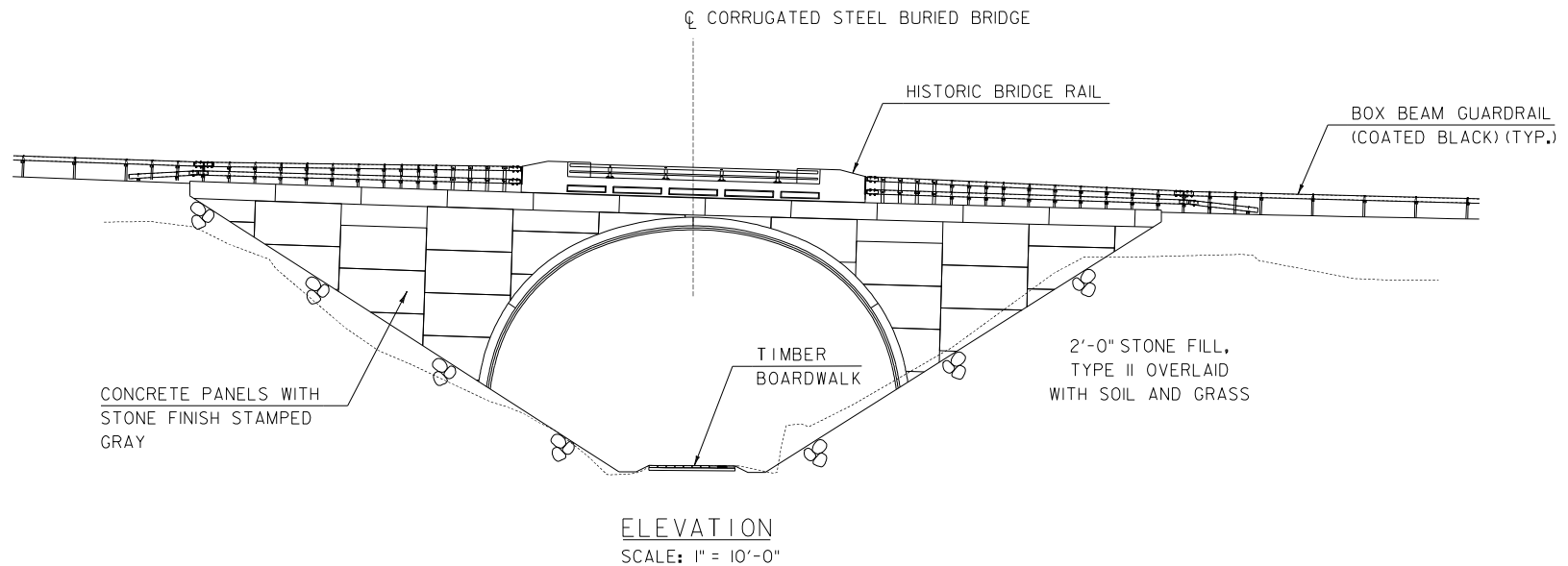
- Complete replacement
- Buried corrugated metal plate 47-foot arch
- Mechanically Stabilized Earth walls (MSE)
- Precast concrete finish resembling rock



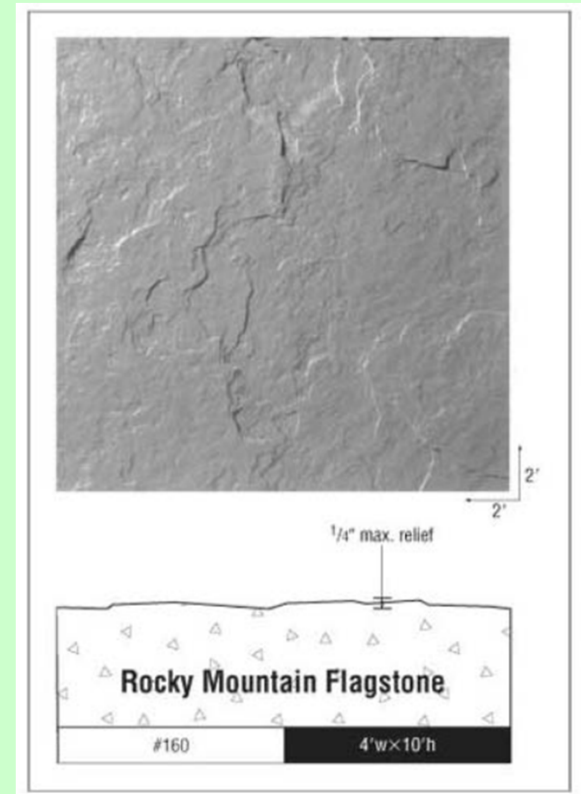
MSE Walls



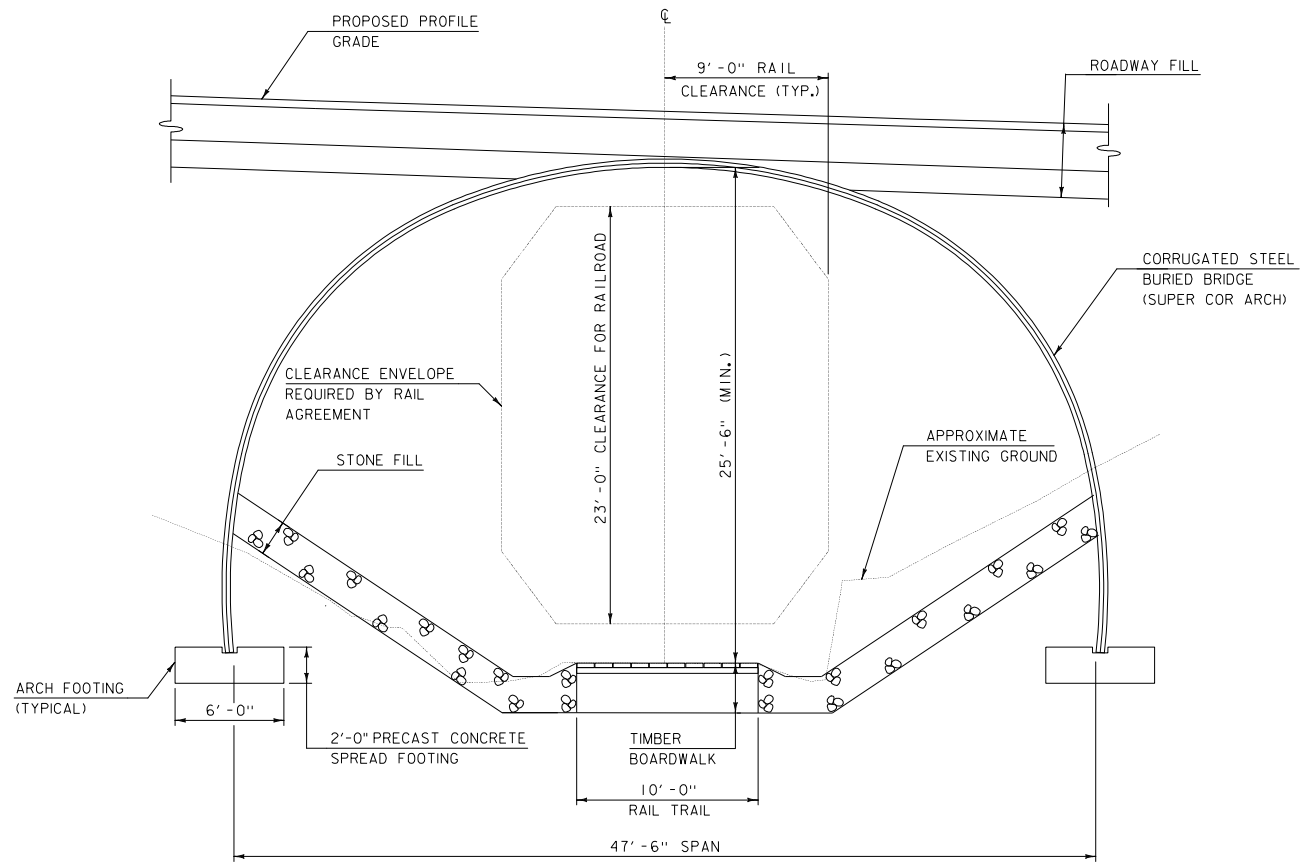
Bridge Elevation



MSE Wall and Pattern



Arch Section



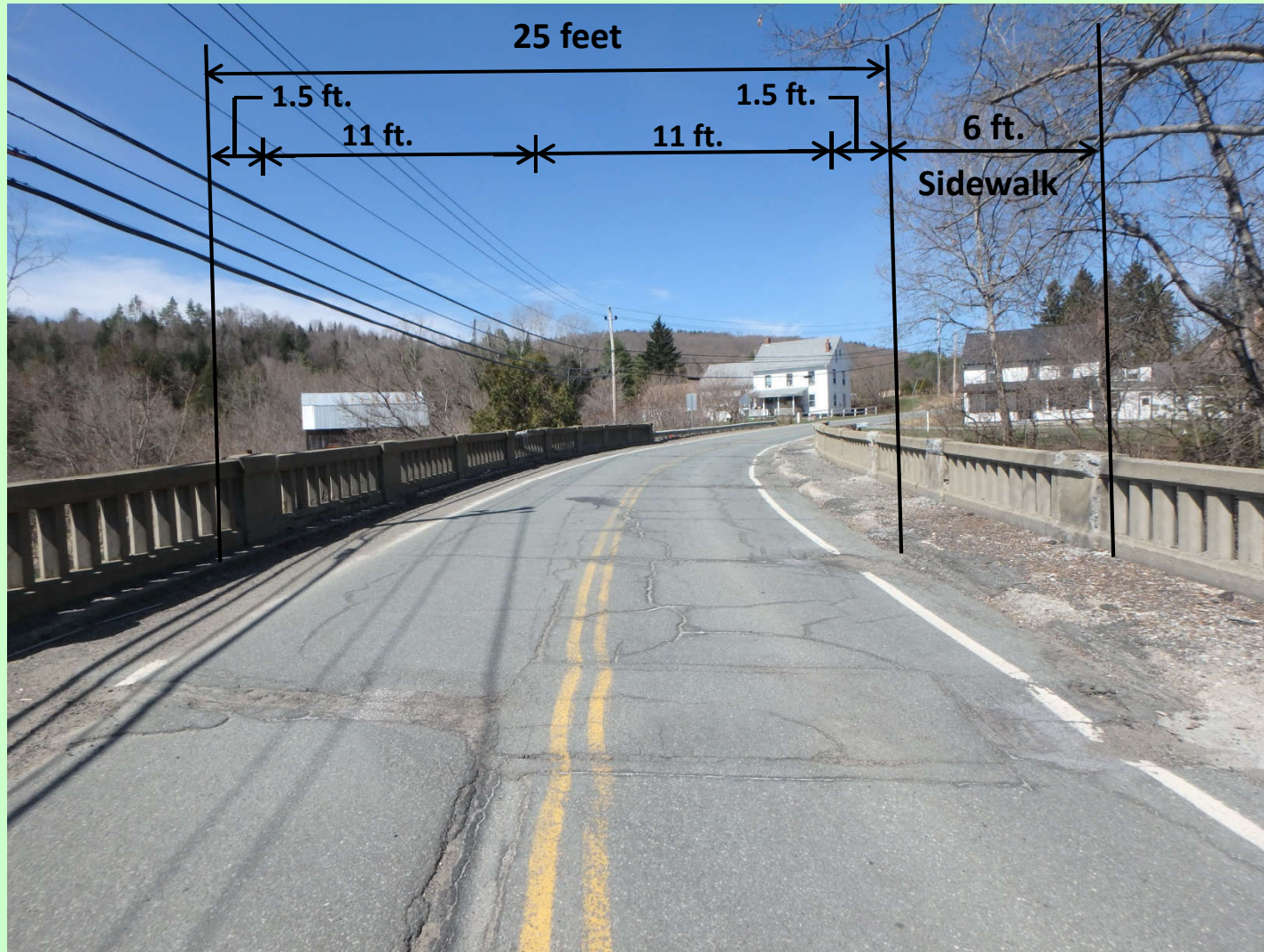
CORRUGATED STRUCTURAL STEEL PLATE ARCH TYPICAL SECTION

SCALE: $\frac{1}{4}" = 1'-0"$

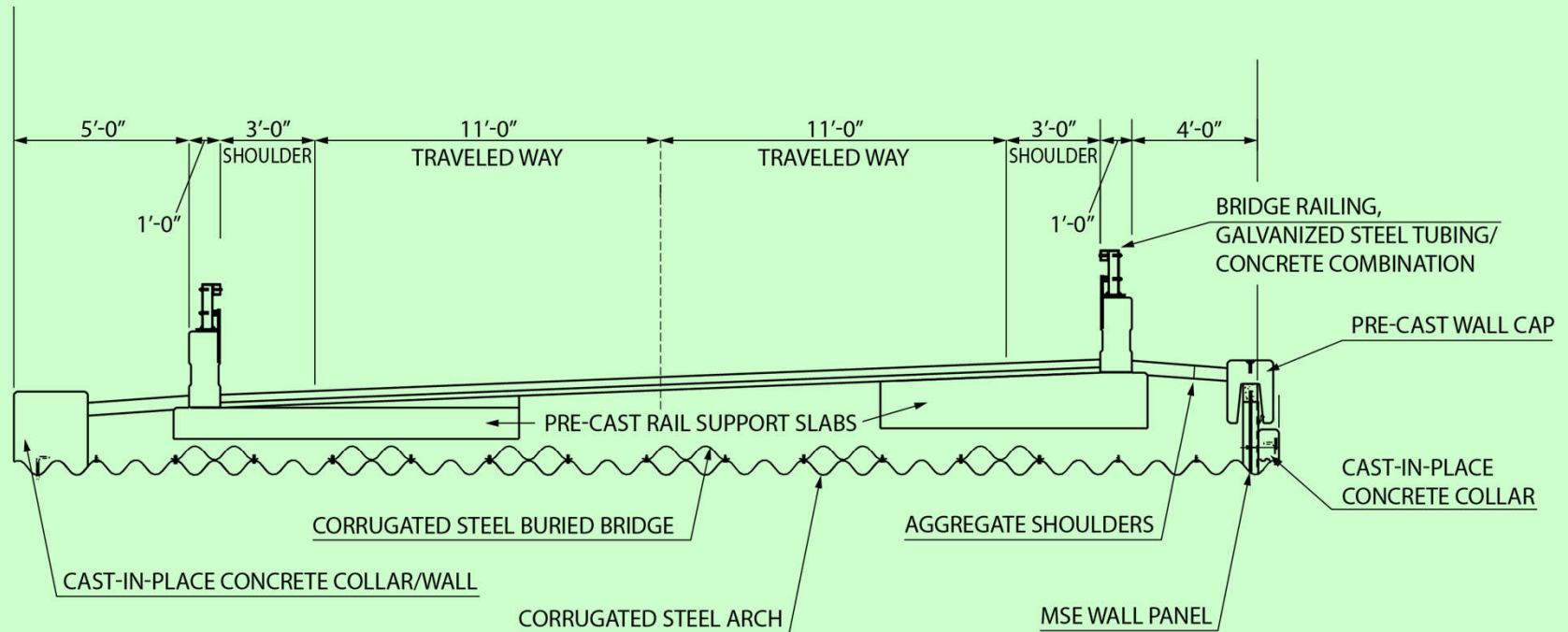
Roadway Design

- 28 feet wide
- Two 11-foot lanes
- Two 3-foot shoulders
- No sidewalk per request of Town

Existing Roadway Width

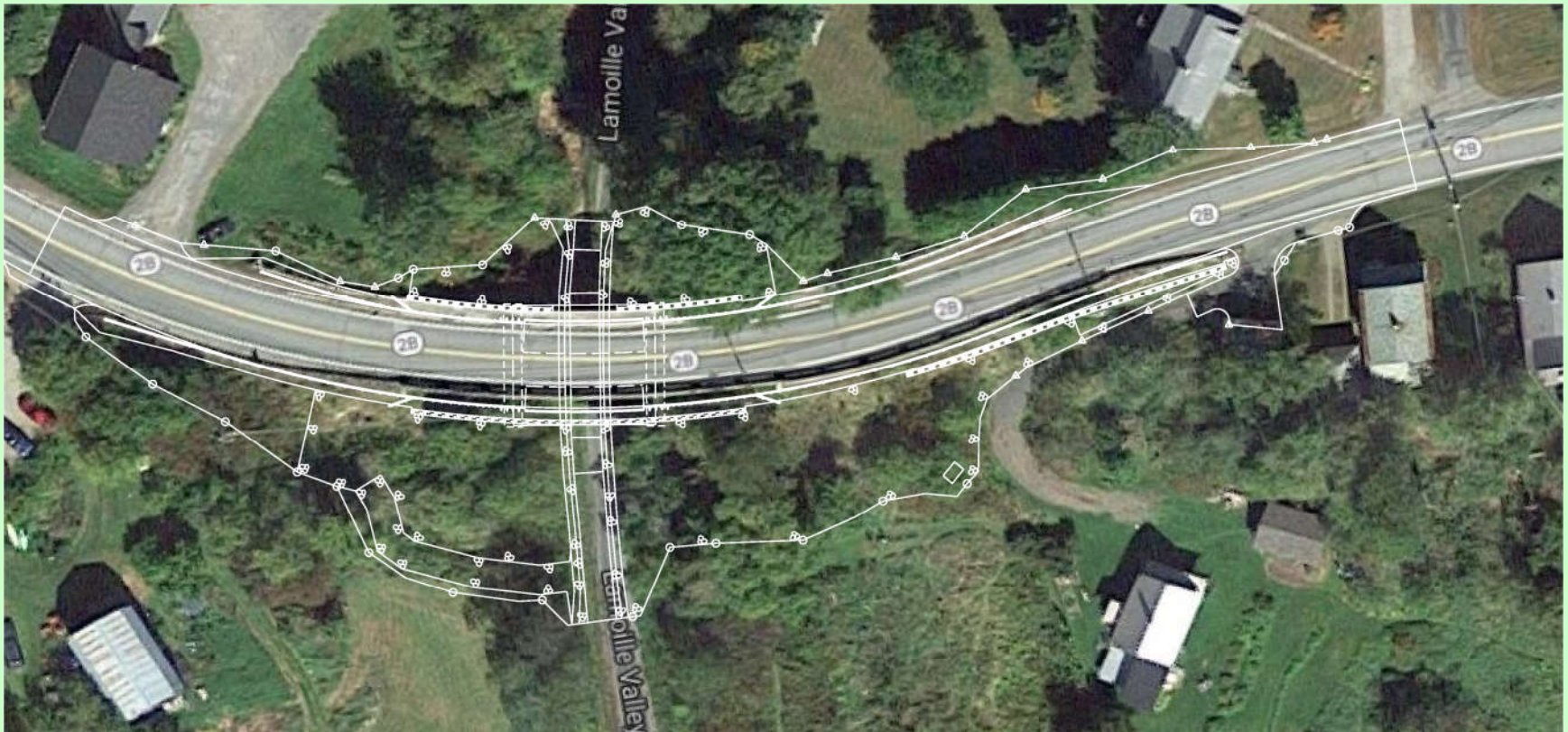


Proposed Roadway



TYPICAL LONGITUDINAL BRIDGE SECTION

Project Limits



Pre-Construction

- Relocation of utility poles (done by others)
- Mobilize equipment on site
- Delivery of long lead items (precast slabs, wall panels, arch etc.)

Construction

- Demolition of old bridge and excavation
- Install arch footings
- Bolt together arch
- Backfill and compact, install wall panels and instrumentation
- Install rail support slabs

Construction

- Field cast the concrete for lower bridge rail
- Construct driveway wall
- Construct roadway fill
- Install guardrail
- Pave and line stripe

Schedule

- Current RT 2B closure outlook
 - Start closure approx. May 15 – 25
 - End in 50 days
 - July 14 is goal for end of closure
 - July 28 is goal to end active construction
- 28-day LVRT Closure
 - Necessary for safety during trail and overhead work
 - Local closure at site, other trail segments still open

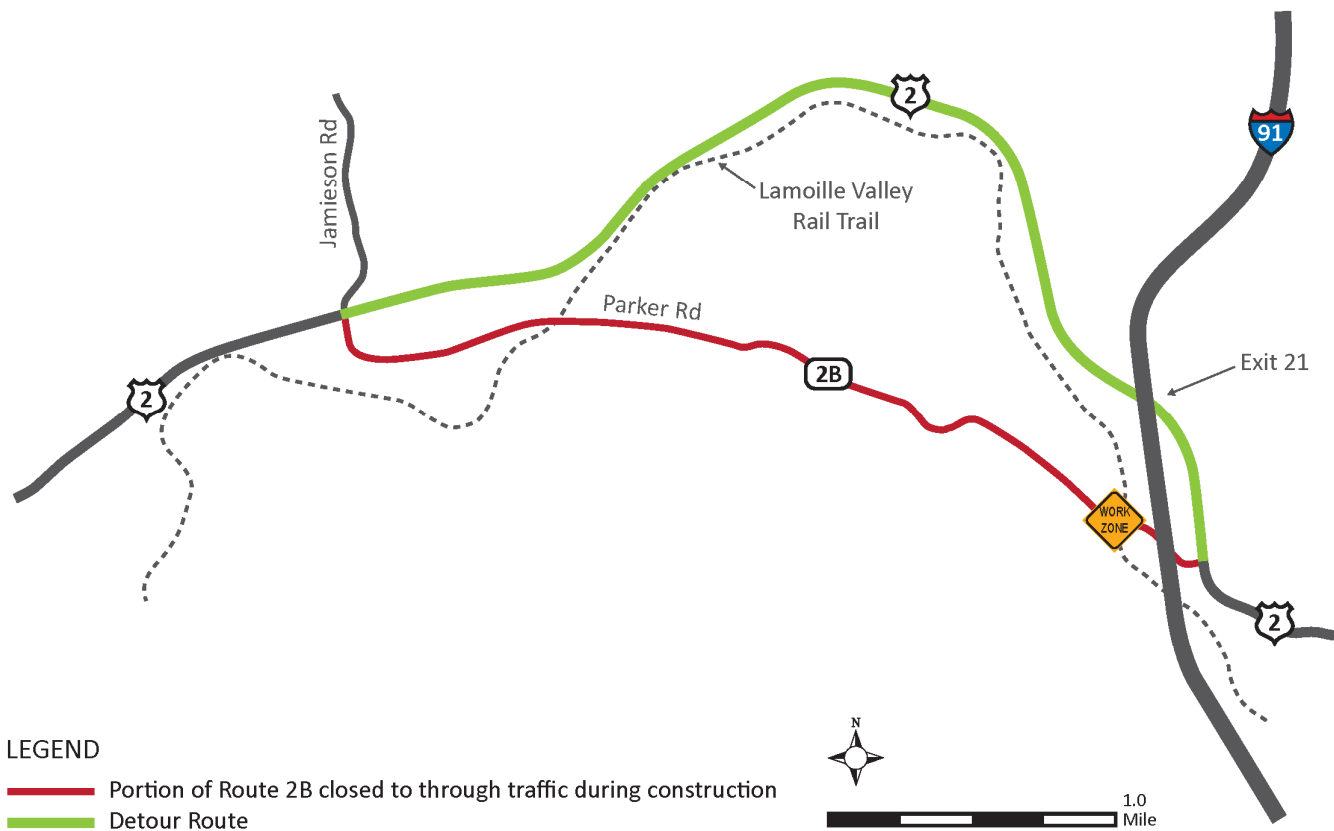
Schedule

- Contractor \$ Incentives/Disincentives
 - Incentives to open trail in 28 days
 - Incentive for roadway opening in 50 days or less
 - Disincentive for roadway not open in 50 days or not open by July 14.

Roadway Detour Route

Detour Route

VT Route 2B Bridge 6 over the Lamoille Valley Rail Trail
St. Johnsbury

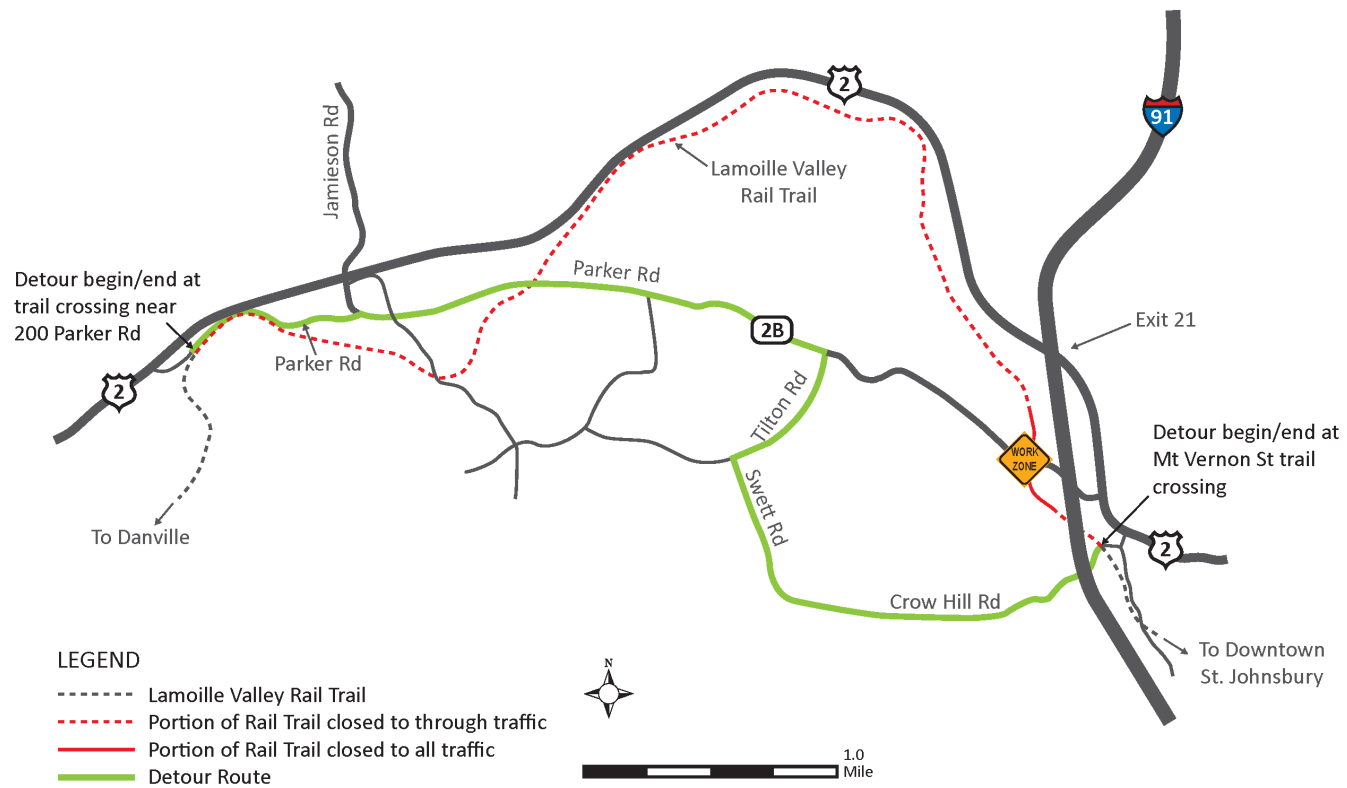


LVRT Detour Route

Town of St. Johnsbury's Designated Rail Trail Detour Route

VT Route 2B Bridge 6 over the Lamoille Valley Rail Trail

St. Johnsbury



Emergency Response During Closure Period

- St. Johnsbury Fire and Vermont State Police will use alternate routes to best serve the emergency location of an incident
- Calex Ambulance will cover areas east of the project with Danville Rescue covering areas west of the project
- Some delay in response times may be expected during closure period
- St Johnsbury Police will have delay ONLY when providing mutual aid – Town coverage does not go beyond bridge


Project Communications

- Francine Perkins, Project Outreach Coordinator – 802-479-6994
- Email Alerts (weekly during construction)
- St. Johnsbury List Serve
- Local Newspapers
- Project Website – Sign up to receive updates or leave comments

www.stj2bbridge.vtransprojects.vermont.gov

The screenshot shows a web browser window with the URL <http://stj2bbridge.vtransprojects.vermont.gov/>. The page features a dark sidebar on the left with a home icon and links to 'About the bridge', 'Schedule and Calendar', 'Document Library', 'Project Photos', 'Stay Informed', 'Frequently Asked Questions', and 'Glossary and Related Links'. The main content area has a title 'ST. JOHNSBURY Route 2B Bridge Replacement Project' in green, followed by a photograph of a road bridge. Below the photo is the section 'ABOUT THE BRIDGE' with three paragraphs of text. To the right of the text is a green box titled 'CONSTRUCTION UPDATE FEBRUARY 2017' containing a message about the contractor's start date. The browser's address bar and search bar are visible at the top, and the page is zoomed to 125%.

ST. JOHNSBURY Route 2B Bridge Replacement Project



ABOUT THE BRIDGE

In 2017, the Vermont Agency of Transportation (VTrans) will replace the VT Route 2B Bridge 6 over the Lamoille Valley Rail Trail in the Town of St. Johnsbury. The bridge is less than one half mile west of Route 2B's eastern intersection with US Route 2.

Built in 1936, the 129-foot steel and concrete bridge is in poor condition. In 2013, VTrans evaluated alternatives to repair or replace the bridge that included permanent closure, an at-grade crossing and full bridge replacement. The engineering study recommended complete replacement of the bridge.

The new bridge will have a 28-foot wide roadway including two 11-foot travel lanes, 3-foot wide shoulders and a combination concrete and steel rail. The existing 129-foot bridge is supported by two tall piers adjacent to the rail trail. It will be replaced by a buried corrugated metal plate, 47-foot arch bridge with mechanically stabilized earth walls with precast concrete finish resembling rock. The walls will be built to adjust well to the expected settlement of the steep slope on both sides of the bridge.

CONSTRUCTION UPDATE FEBRUARY 2017

The contractor will begin setting up on-site in mid-April. Please check back for weekly project updates.

Questions